

## CLAIMS

1. Method for terminating an accidental switch on of a deep fryer apparatus when  
5 it is not filled with oil, said deep fryer apparatus comprises a vessel having closed bottom and sides, and a heating element formed substantially horizontally for direct contact with the oil within the vessel, in said method the temperature is measured at one or more determined points of the inner space of said vessel of said deep fryer apparatus, and by observing the measured temperature value accidental switched on state of said  
10 apparatus is detected and terminated at the same time, characterized in that a derivative (3) of the temperature (1,2) measured at said one or more determined point(s) is defined, and the heating power (4) is automatically cut off in order to terminate a switched on state of said deep fryer apparatus when the value of said derivative (3) exceeds a predetermined threshold value.
- 15 2. Method according to claim 1 characterized in that the value of said derivative (3) is averaged in a time-interval window preceding the momentary value and having a predetermined length, and the switched on state of said deep fryer apparatus is terminated automatically when the averaged value exceeds said threshold value.
- 20 3. Method according to claims 1 or 2 characterized in that a plurality of different threshold values are determined in accordance with temperature sensors positioned at a plurality of determined points within the vessel of said deep fryer apparatus, and the switched on state of said apparatus may be terminated automatically when said value of the derivative (3) of the temperature measured at any of the respective points exceeds the relevant threshold value.
- 25 4. Method according to claims 1, 2 or 3 characterized in that said deep fryer apparatus is a potato fryer.
- 30 5. Control arrangement for terminating an accidental switch on of a deep fryer apparatus when it is not filled with oil, said deep fryer apparatus comprises a vessel having closed bottom and sides, and a electric heating element formed substantially horizontally for direct contact with the oil within said vessel, at one or more determined points of the inner space of said vessel of said deep fryer apparatus means for measuring the temperature are disposed, said control arrangement is adapted to observe the

measured temperature value and to detect an accidental switch on and at the same time to cut off the supply current of said electric heating element, characterized in that said control arrangement is further adapted to define a derivative (3) of the temperature (1,2) measured at said one or more determined point(s), and to automatically cut off the  
5 heating power (4) in order to terminate a switched on state of said deep fryer apparatus when the value of said derivative (3) exceeds a predetermined threshold value.

6. Apparatus according to claim 5 characterized in that said deep fryer apparatus is a potato fryer.